

### ABSTRACT OF THE DISCLOSURE

The apparatus for reducing biological wasted sludge includes a sludge hydrolysis reactor, a sludge neutralization reactor and a membrane bioreactor (MBR). The method of the present invention includes

5 subjecting a biological wasted sludge to hydrolysis and neutralization treatments to offer an intermediate feed suitable to be treated in the MBR. The hydrolyzed sludge and microorganisms are retained in the MBR, so that a further hydrolysis of sludge and decomposition of organics undergo to achieve the objectives of stabilization of sludge and reduction of sludge.

10 Thanks to the filtration membrane of the MBR, specific microorganisms can be acclimated and accumulated in the MBR to decompose substrates in the sludge which are difficult to be decomposed, and an effluent of expected water quality can be meet.